Unified Information Security Framework

A Collaborative Approach to Developing Security Standards and Guidelines

U.S.- India Standards in Trade Workshop

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Advanced Persistent Threat

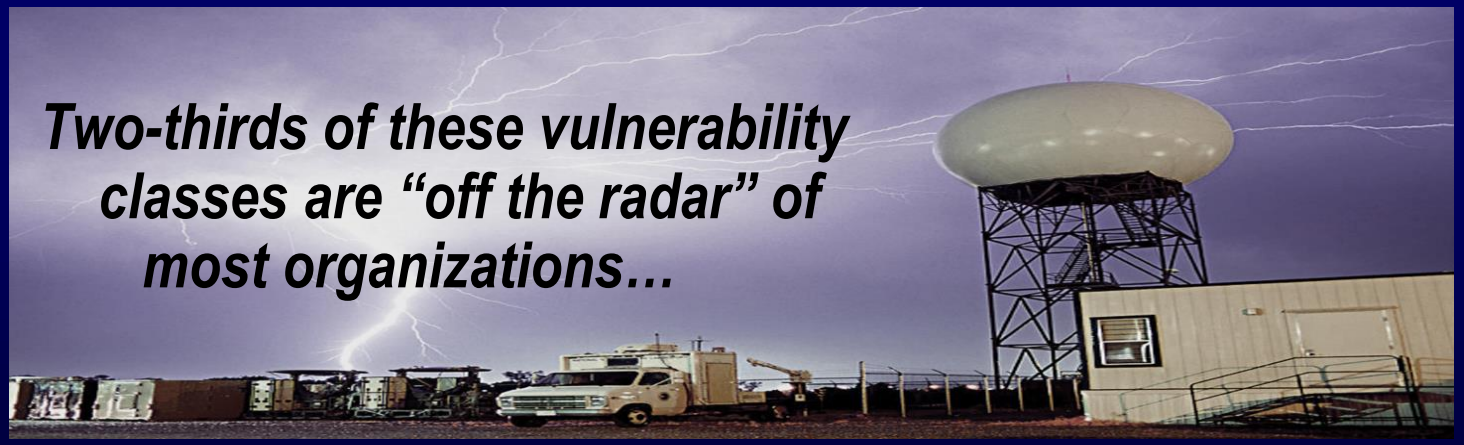
An adversary that —

- Possesses significant levels of expertise / resources.
- Creates opportunities to achieve its objectives by using multiple attack vectors (e.g., cyber, physical, deception).
- Establishes footholds within IT infrastructure of targeted organizations:
  - **To exfiltrate information;**
  - **To undermine / impede critical aspects of a mission, program, or organization; and**
  - **To position itself to carry out these objectives in the future.**

Classes of Vulnerabilities

A 2013 Defense Science Board Report described—

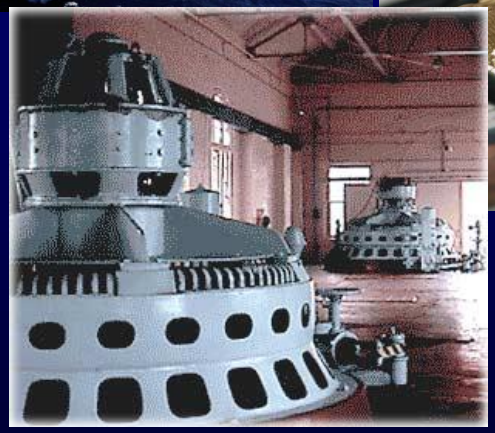
- Tier 1: Known vulnerabilities.
- Tier 2: Unknown vulnerabilities (zero-day exploits).
- Tier 3: Adversary-created vulnerabilities (APT).



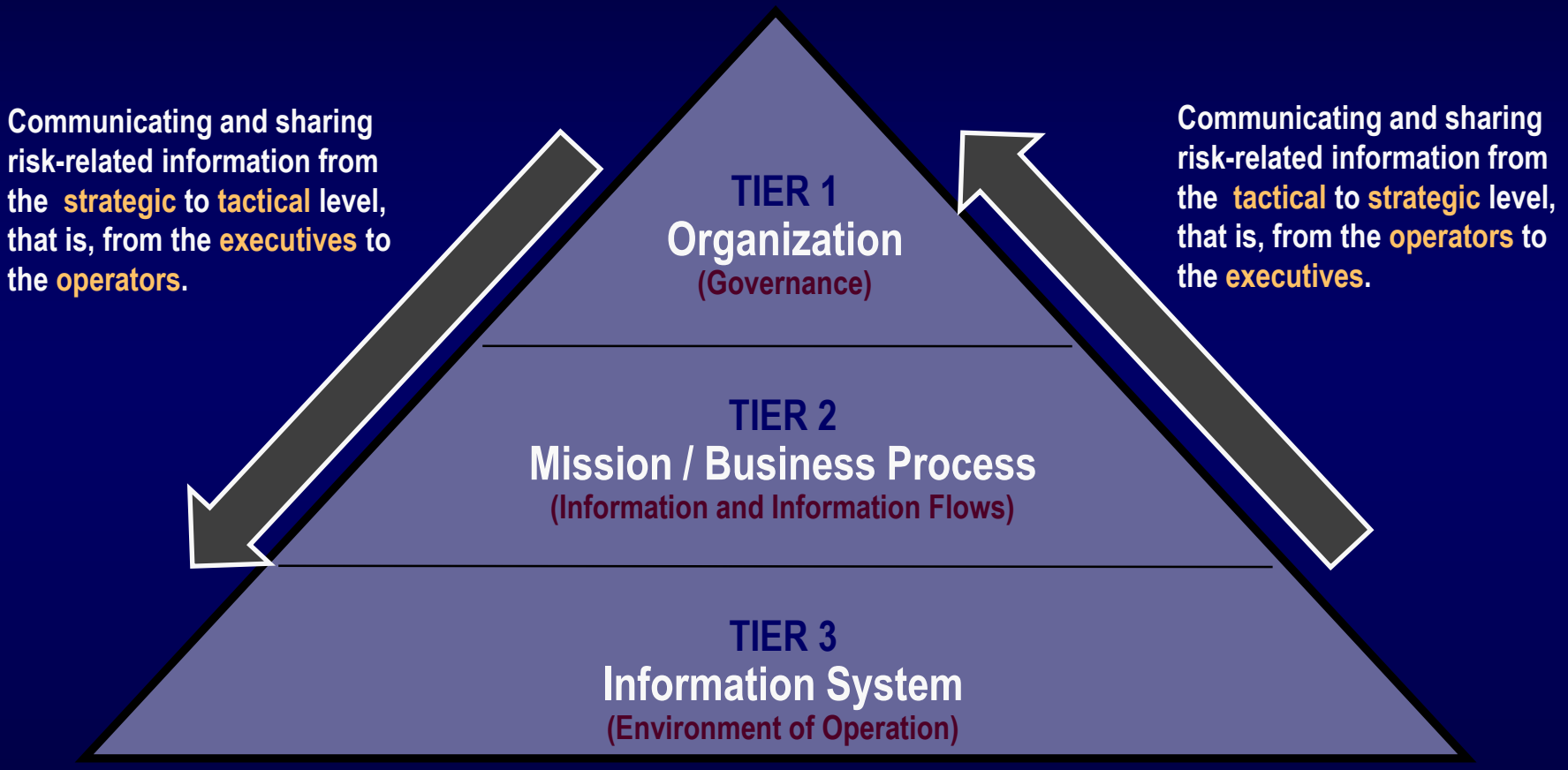
Unified Information Security Framework

- **NIST Special Publication 800-39**
  Managing Information Security Risk: Organization, Mission, and Information System View
- **NIST Special Publication 800-30**
  Guide for Conducting Risk Assessments
- **NIST Special Publication 800-37**
  Applying the Risk Management Framework to Federal Information Systems
- **NIST Special Publication 800-53**
  Security and Privacy Controls for Federal Information Systems and Organizations
- **NIST Special Publication 800-53A**
  Guide for Assessing the Security Controls in Federal Information Systems and Organizations

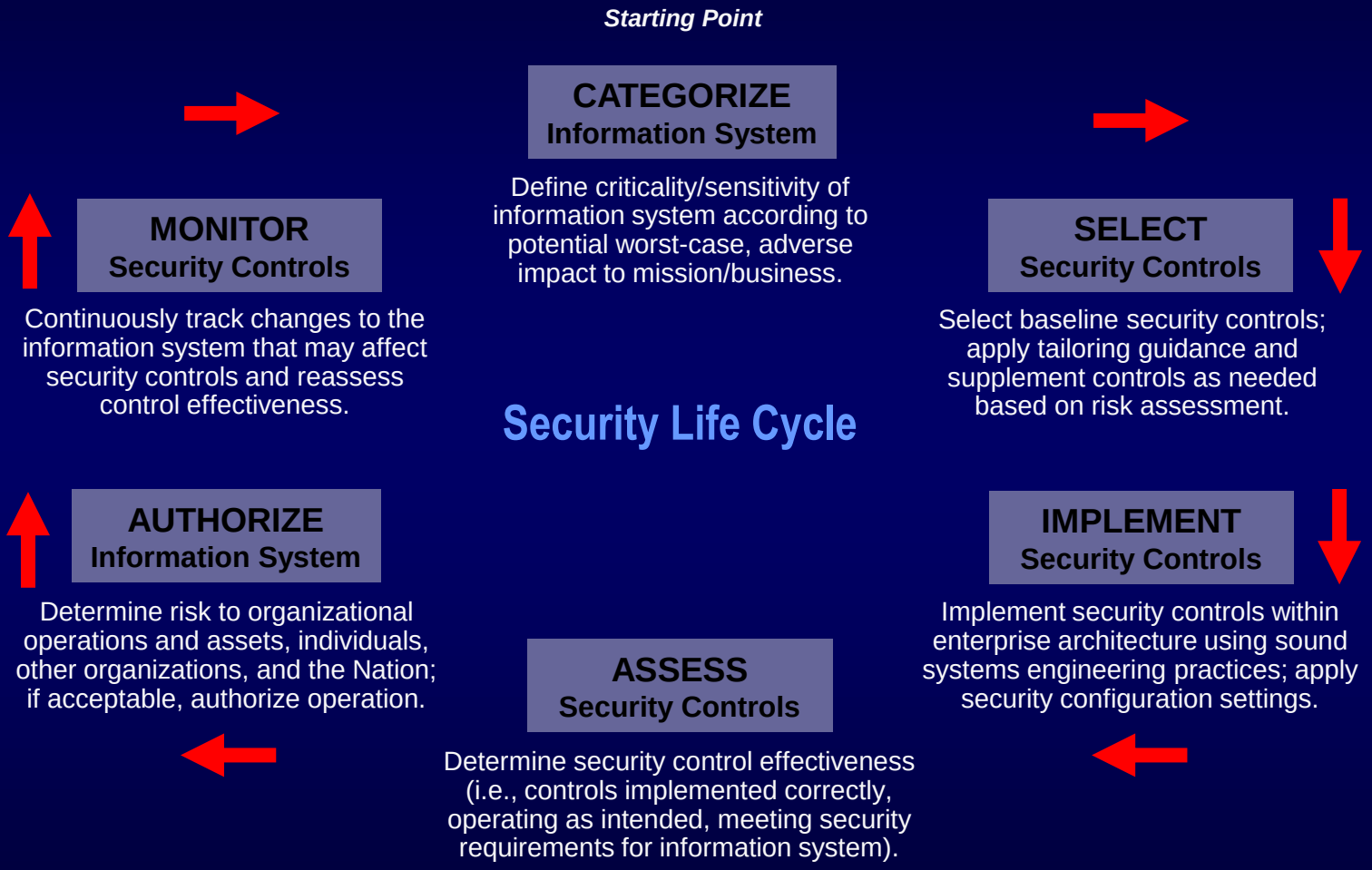


Institutionalizing Risk-Based Security



Risk Management Framework

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